N43RF ERROR SUMMARY
CHECKOUT/SFMR FLIGHT

Flight ID: 20130603I1

Sensor or system	Number or Name
INE (for wind derivation)	INE1
Accelerometer	AccZfilterI-GPS.1
Temperature Probe	TTM.1
Dew Point Probe	TDM.1 (Buck)
Altitude (for vertical wind)	AltGPS.1 (RINU PURE GPS)
Static Pressure	PSM.2
Dynamic Pressure	PQM.2
Constants File	n43_xml
Project Directory	/acdata/2013/MET/20130603I1

Notes:

For 1- Hz data only.

There were no data gaps.

Dewpoint sensor #1 (TDM.1...Buck) had erroneous values during the following time frame: 012708Z – 013456Z. The erroneous data was manually removed and replaced utilizing statistical techniques and referencing the TDL (TDM.3) dewpoint sensor output.
Even though both TDM.2 (EdgeTech) and TDM.3 (TDL) dewpoint sensor outputs trended with TDM.1 output, their respective values were much lower than TDM.1.

Total temperature sensor #2 (TTM.2) was warmer than TTM.1 throughout the flight but more so above 15000 feet. Both total temperature sensors functioned optimally but TTM.1 was selected for post-flight processing. The average difference between TTM.1 and TTM.2 for the entire flight was -0.18C. However for altitudes at or above 15000 feet the temperature difference was greater than -0.40C.

There were noticeable differences between the two RINU-G blended inertial/GPS altimeter values (AltI-GPS.1/.2). Before take off the AltI-GPS.1 output was reading negative, so we switched to AltI-GPS.2 for the flight. However in post-flight analysis it was observed that AltI-GPS.2 values were behaving erratically similar to the AltI-GPS.1 output, so the RINU-G pure GPS #1 (AltGPS.1) altimeter output was selected for post-flight processing.

The scientific IAS was 1.3 m/s higher than the inertial (deck) output. The scientific

TAS was 2.20 m/s higher than the inertial (deck) output. These respective differences are consistent with what has been observed in the past.

There were noticeable differences among the fuselage dynamic pressure values of up to 1.0 mb. After lots of discussion it was discovered that there was an error in the cal lab coefficients for PSM.3 (1221 fuselage dynamic pressure probe), PSM.4 (1221 radome dynamic pressure probe), and the fuselage attack and sideslip differential and dynamic pressure probes. The cal lab removed those respective pressure transducers and re-did the bench calibration for each pressure sensor.

For takeoff...fuselage static pressure was 1012.8 mb
wingtip static pressure was 1011.0 mb
AVAPS cabin pressure was 1012.8 mb at 2126Z cabin door open

For landing....fuselage static pressure was 1013.5 mb
wingtip static pressure was 1012.5 mb
AVAPS cabin pressure was NA

All other instruments worked optimally during the flight.

	Takeoff (2212Z)	**Landing (0143Z)**
Aircraft Static Pressure	1012.8mb	1013.5mb
Corrected Tower Pressure	1012.7mb	1014.4mb

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